METHOD AND APPARATUS FOR WAVELENGTH CONVERSION

Abstract of the Disclosure

A wavelength converting method and apparatus which converts wavelength division multiplexed (WDM) signal light, having a plurality of channels, by four-wave mixing the WDM signal light with at least one pump lightwave. Wavelength conversion of the WDM signal is accomplished without producing noise by FWM the WDM signal with an pump lightwave, wherein the pump lightwave frequency is separated from the WDM signal by an interval equal to or greater than the bandwidth of the WDM signal. Two pump lightwaves can be used instead of one, wherein one of the pump lightwaves has a frequency on side of the bandwidth of the WDM signal, and the average frequency of the two pump lightwaves is on the other side of the WDM signal bandwidth.